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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,737	03/14/2006	Witold Gajewski	19357-104322	3469
28886	7590	05/13/2008		
CLARK HILL, P.C. 500 WOODWARD AVENUE, SUITE 3500 DETROIT, MI 48226			EXAMINER	
			CHANG, CHING	
			ART UNIT	PAPER NUMBER
			3748	
			MAIL DATE	DELIVERY MODE
			05/13/2008 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/571,737

Applicant(s)

GAJEWSKI, WITOLD

Examiner

CHING CHANG

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/14/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4, and 6-19 is/are rejected.
- 7) ☒ Claim(s) 3 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 3/14/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office acknowledges the Preliminary Amendment filed on 3/14/06.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1(a). Each of the claims 1-2, 4, 6-9, and 10-19 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent 7,044,875, respectively.

Although the claims are not identical, they are not patentably distinct from each other because the claims of the instant application are substantially the same as that claimed in the claim 4 of US '875 Patent; however, the scope of each of the claims 1-2, 4, 6-9, and 10-19 is broader than that claim 4 of the US '875 Patent.

1(b). Each of the claims 1-2, 4, 6-9, and 10-19 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 8 of U.S. Patent 7,044,875, respectively.

Although the claims are not identical, they are not patentably distinct from each other because the claims of the instant application are substantially the same as that claimed in the claim 8 of US '875 Patent; however, the scope of each of the claims 1-2, 4, 6-9, and 10-19 is broader than that claim 8 of the US '875 Patent.

1(c). Each of the claims 1-2, 4, 6-9, and 10-19 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent 7,044,875, respectively.

Although the claims are not identical, they are not patentably distinct from each other because the claims of the instant application are substantially the same as that claimed in the claim 11 of US '875 Patent; however, the scope of each of the claims 1-2, 4, 6-9, and 10-19 is broader than that claim 11 of the US '875 Patent.

1(d). Each of the claims 1-2, 4, 6-9, and 10-19 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent 7,232,391, respectively.

Although the claims are not identical, they are not patentably distinct from each other because the claims of the instant application are substantially the same as that claimed in the claim 3 of US '391 Patent; however, the scope of each of the claims 1-2, 4, 6-9, and 10-19 is broader than that claim 3 of the US '391 Patent.

1(e). ***Each of the claims 1-2, 4, and 6-9 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 34 of U.S. Patent 7,232,391, respectively.***

Although the claims are not identical, they are not patentably distinct from each other because the claims of the instant application are substantially the same as that claimed in the claim 34 of US '391 Patent; however, the scope of each of the claims 1-2, 4, and 6-9 is broader than that claim 34 of the US '391 Patent.

Specification

2. The abstract of the disclosure is objected to because
- "perimeter of the motor" in line 4 appears to be -- perimeter of the rotor --.
- Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. ***Claims 1-2, 4, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Bogelein et al. (US Patent 6,776,067).***

Bogelein discloses a rotary component comprising a rotor (13, 15) having a plurality of teeth (19) arranged around the perimeter of the rotor, each tooth having a crown, and each pair of adjacent teeth having a valley therebetween, the crowns of the teeth lying on a curved envelope forming the perimeter of the rotor, the perimeter of the rotor having a non-circular profile (See Figs. 1, 3-5) having at least two protruding portions alternating with receding portions, in which the distance between the midpoints of the crowns of each pair of adjacent teeth is substantially the same, the profile of the valley between each pair of adjacent teeth is substantially the same, and the distance between the midpoint of each crown and the axis of the rotor varies around the perimeter to produce the said non-circular profile; in which for each tooth the orientation of the valley on one side of the tooth relative to the valley on the other side of the tooth taken about the midpoint of the crown of the tooth varies around the perimeter to produce the said non-circular profile; in which for each tooth the orientation of the valley on one side of the tooth relative to the valley on the other side of the tooth taken about the midpoint of the crown of the tooth varies around the perimeter to produce the said non-circular profile; in which the said non-circular profile is a generally oval profile.

6. ***Claims 10-19 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Elrod et al. (US Patent 5,417,186).***

Elrod discloses a synchronous drive apparatus (79, 179) including a rotary component, the synchronous drive apparatus comprising: a continuous-loop elongate drive structure (20, 24) having a plurality of engaging sections; a plurality of rotors comprising at least a first and a second rotor, the first rotor (40, 50, 60) having a plurality of teeth for engaging the engaging sections of the elongate drive structure, and the second rotor (70, 72) having a plurality of teeth for engaging the engaging section of the elongate drive structure; a rotary load assembly (25, 101, 102, 125, 126) coupled to the second rotor; the elongate drive structure being engaged about the first and second rotors, the first rotor being arranged to drive the elongate drive structure and the second rotor being arranged to be driven by the elongate drive structure, the rotary load assembly being such as to present a periodic fluctuating load torque when driven in rotation; and wherein one of the said first and second rotors is a rotary component comprising a rotor having a plurality of teeth arranged around the perimeter of the rotor, each tooth having a crown, and each pair of adjacent teeth having a valley therebetween, the crowns of the teeth lying on a curved envelope forming the perimeter of the rotor, the perimeter of the rotor having a non-circular profile having at least two protruding portions alternating with receding portions, in which the distance between the midpoints of the crowns of each pair of adjacent teeth is substantially the same, the profile of the valley between each pair of adjacent teeth is substantially the same, and

the distance between the midpoint of each crown and the axis of the rotor varies around the perimeter to produce the said non-circular profile arranged to reduce or substantially cancel vibration arising from the fluctuating load torque of the rotary load assembly; in which the said non-circular profile is provided on the first rotor, in which the said non-circular profile is provided on the second rotor, in which the non-circular profile is provided on a third rotor, in which the third rotor comprises an idler rotor urged into contact with the continuous loop elongate drive structure, the third rotor (170, 172) having a plurality of teeth for engaging the engaging sections of the elongate drive structure, wherein when installed in an internal combustion engine, the said first rotor comprising a crankshaft sprocket (37), in which the internal combustion engine is a diesel engine, and the said rotary load assembly comprises a rotary fuel pump, in which the internal combustion engine is a petrol engine and the rotary load assembly comprises a camshaft assembly, in which the continuous-loop elongate structure is a toothed belt (39, 99, 98).

7. *Claims 1-2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Elrod et al. (US Patent 5,417,186).*

Elrod discloses a rotary component comprising a rotor (70, 72; 170, 172) having a plurality of teeth (19) arranged around the perimeter of the rotor, each tooth having a crown, and each pair of adjacent teeth having a valley therebetween, the crowns of the teeth lying on a curved envelope forming the perimeter of the rotor, the perimeter of the rotor having a non-circular profile (See Figs. 3, 7, 15, 17) having at least two protruding

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portions alternating with receding portions, in which the distance between the midpoints of the crowns of each pair of adjacent teeth is substantially the same, the profile of the valley between each pair of adjacent teeth is substantially the same, and the distance between the midpoint of each crown and the axis of the rotor varies around the perimeter to produce the said non-circular profile; in which for each tooth the orientation of the valley on one side of the tooth relative to the valley on the other side of the tooth taken about the midpoint of the crown of the tooth varies around the perimeter to produce the said non-circular profile; in which for each tooth the orientation of the valley on one side of the tooth relative to the valley on the other side of the tooth taken about the midpoint of the crown of the tooth varies around the perimeter to produce the said non-circular profile; in which the said non-circular profile is a generally oval profile.

8. ***Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogelein et al. or Elrod et al. (as applied to claim 6 above) in view of design choice.***

9. ***Claims 1-2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Asa et al. (JP '453).***

Asa discloses a rotary component comprising a rotor (4) having a plurality of teeth arranged around the perimeter of the rotor, each tooth having a crown, and each pair of adjacent teeth having a valley therebetween, the crowns of the teeth lying on a curved envelope forming the perimeter of the rotor, the perimeter of the rotor having a non-circular profile (See Figs. 1, 4) having at least two protruding portions alternating

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with receding portions, in which the distance between the midpoints of the crowns of each pair of adjacent teeth is substantially the same, the profile of the valley between each pair of adjacent teeth is substantially the same, and the distance between the midpoint of each crown and the axis of the rotor varies around the perimeter to produce the said non-circular profile; in which for each tooth the orientation of the valley on one side of the tooth relative to the valley on the other side of the tooth taken about the midpoint of the crown of the tooth varies around the perimeter to produce the said non-circular profile; in which for each tooth the orientation of the valley on one side of the tooth relative to the valley on the other side of the tooth taken about the midpoint of the crown of the tooth varies around the perimeter to produce the said non-circular profile; in which the said non-circular profile is a generally oval profile.

Allowable Subject Matter

10. Claims 5, and 21-22 are allowed.
11. Claims 3, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHING CHANG whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ching Chang/
Primary Examiner, Art Unit 3748